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L1            23 SEA FILE=REGISTRY KIFGSLAFL/SQSP
L2            39 SEA FILE=HCAPLUS L1
L3           360 SEA FILE=REGISTRY T(5A)LYMPHOCYTE?
L4        119631 SEA FILE=HCAPLUS L3 OR T(5A)(CELL? OR LYMPHOCYTE?)
L5            24 SEA FILE=HCAPLUS L4 AND L2


=> d ibib abs hitrn l5 1-24


L5   ANSWER 1 OF 24  HCAPLUS  COPYRIGHT 2000 ACS
ACCESSION NUMBER:         2000:645832  HCAPLUS
DOCUMENT NUMBER:          133:256752
TITLE:                    Microparticles for delivery of nucleic acid
INVENTOR(S):              Lunsford, Lynn B.; Putnam, David; Hedley, Mary Lynne
PATENT ASSIGNEE(S):       Zycos Inc., USA
SOURCE:                   PCT Int. Appl., 96 pp.
                          CODEN: PIXXD2
DOCUMENT TYPE:            Patent
LANGUAGE:                 English
FAMILY ACC. NUM. COUNT:   1
PATENT INFORMATION:

     PATENT NO.        KIND  DATE           APPLICATION NO.  DATE
     ----------------  ----  --------       ---------------  --------
     WO 2000053161      A2   20000914       WO 2000-US6578   20000310
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W: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM
RW: GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG

PRIORITY APPLN. INFO.: US 1999-266463 19990311
US 1999-321346 19990527

AB A prepn. of microparticles made up of a polymeric matrix, a nucleic acid expression vector, and a lipid is disclosed. The polymeric matrix includes one or more synthetic polymers having a soly. in water of less than about 1 mg/L. At least 90 % of the microparticles have a diam. less than about 100 .mu.. The nucleic acid is either RNA, at least 50 % of which is in the form of closed circles, or circular DNA plasmid mols., at least 50 % of which are supercoiled.

IT **160212-35-1**
RL: PRP (Properties)
(unclaimed sequence; microparticles for delivery of nucleic acid)

L5 ANSWER 2 OF 24 HCAPLUS COPYRIGHT 2000 ACS
ACCESSION NUMBER: 2000:592741 HCAPLUS
DOCUMENT NUMBER: 133:191988
TITLE: Protein preparations
INVENTOR(S): Shinbara, Naoki; Udono, Heiichiro; Yui, Katsuyuki
PATENT ASSIGNEE(S): Sumitomo Electric Industries, Ltd., Japan
SOURCE: PCT Int. Appl., 72 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2000049041	A1	20000824	WO 2000-JP941	20000218

W: JP, US
RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE

PRIORITY APPLN. INFO.: JP 1999-41535 19990219

AB A fused protein which is capable of inducing a potent cellular immune response and thus useful in treating or preventing infectious diseases such as malaria or diseases such as cancer; and medicinal compns. contg. this fused protein as the active ingredient. Namely, a fused protein composed of a peptide contg. a CTL epitope recognized by cytotoxic **T cells** and a protein contg. the ATPase domain of heat shock protein; medicinal compns. contg. this fused protein as the active ingredient; a DNA encoding the fused protein; an expression vector contg. this DNA; and a transformant carrying this expression vector. The most efficacious way for administering the medicinal compns. is i.v. injection into a living body.

IT **160212-35-1**
RL: BSU (Biological study, unclassified); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses)

(cytotoxic **T lymphocyte** epitope; heat shock proteins or fusion proteins for treating and preventing infectious diseases such as malaria and cancers)

REFERENCE COUNT: 4

REFERENCE(S):
(1) Kimiko, S; Proc Natl Acad Sci USA 1997, V94, P13146
(2) Minka, B; European Journal of Immunology 1998, V28(3), P1016
(3) Nathalie, E; J Exp Med 1997, V186(8), P1315
(4) Tatsuaki, I; The Journal of Immunology 1999, V162(3), P1303

L5 ANSWER 3 OF 24 HCAPLUS COPYRIGHT 2000 ACS
ACCESSION NUMBER: 2000:402017 HCAPLUS
DOCUMENT NUMBER: 133:54574
TITLE: Recombinant vectors expressing multiple costimulatory molecules, host cell infection, and uses in immunogenic applications
INVENTOR(S): Schlom, Jeffrey; Hodge, James; Panicali, Dennis
PATENT ASSIGNEE(S): United States Dept. of Health and Human Services, USA; Therion Biologics Corporation
SOURCE: PCT Int. Appl., 188 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2000034494	A1	20000615	WO 1999-US26866	19991112

W: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM
RW: GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG

PRIORITY APPLN. INFO.: US 1998-111582 19981209

AB The present invention provides recombinant vectors encoding and expressing at least three or more costimulatory mols and host cells infected by the vector. The recombinant vector may addnl. contain a gene encoding one or more target antigens or immunol. epitope as well as cytokine, chemokine, or Flt-3L. A method of making a recombinant poxvirus, of enhancing an immune response of an individual by administering a recombinant vector, and of treating or preventing a disease by activating a **T lymphocyte**, are also presented. Further describes are a method of making a progenitor dendritic cell or dendritic cell, of assesing the efficacy of a vaccine against a target antigen, and of screening for novel immunogenic peptides. The synergistic effect of these costimulatory mols. on the enhanced activation of **T cells** was demonstrated. The degree of **T-cell** activation using recombinant vectors contg. genes encoding three costimulatory mols. was far greater than the sum of recombinant vector constructs contg. one

costimulatory mol. and greater than the use of two costimulatory mols. Results employing the triple costimulatory vectors were most dramatic under conditions of either low levels of first signal or low stimulator to **T-cell** ratios. This phenomenon was obsd. with both isolated CD4+ and CD8+ **T cells**. The recombinant vectors of the present invention are useful as immunogenes and vaccines against cancer and pathogenic micro-organisms, and in providing host cells, including dendritic cells and splenocytes with enhanced antigen-presenting functions.

IT **160212-35-1**
RL: PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(amino acid sequence; Recombinant vectors expressing multiple costimulatory mols., host cell infection, and uses in immunogenic applications)

REFERENCE COUNT: 4
REFERENCE(S): (1) Hodge, J; Cancer Res 1999, V59, P5800 HCAPLUS
(2) Keting, C; US 5738852 A 1998 HCAPLUS
(3) Therion Biolog Corp; WO 9804727 A 1998
(4) US Health; WO 9610419 A 1996

L5 ANSWER 4 OF 24 HCAPLUS COPYRIGHT 2000 ACS
ACCESSION NUMBER: 2000:240985 HCAPLUS
DOCUMENT NUMBER: 132:292701
TITLE: Novel methods for therapeutic vaccination
INVENTOR(S): Steinaa, Lucilla; Mouritsen, Soren; Nielsen, Klaus Gregorious; Haaning, Jesper; Leach, Dana; Dalum, Iben; Gautam, Anand; Birk, Peter; Karlsson, Gunilla
PATENT ASSIGNEE(S): M Amp E Biotech A/s, Den.
SOURCE: PCT Int. Appl., 220 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2000020027	A2	20000413	WO 1999-DK525	19991005
WO 2000020027	A3	20001012		

W: AE, AL, AM, AT, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, CZ, DE, DE, DK, DK, DM, EE, EE, ES, FI, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM
RW: GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG

PRIORITY APPLN. INFO.: DK 1998-1261 19981005
US 1998-105011 19981020

AB A method is disclosed for inducing cell-mediated immunity against cellular antigens. More specifically, the invention provides for a method for inducing cytotoxic **T-lymphocyte** immunity against weak antigens, notably self-proteins. The method entails that antigen presenting cells are induced to present at least one CTL epitope of the

weak antigen and at the same time presenting at least one foreign **T**-helper **lymphocyte** epitope. In a preferred embodiment, the antigen is a cancer specific antigen, e.g. prostate specific membrane antigen (PSM), Her2, or FGF8b. The method can be exercised by using traditional polypeptide vaccination, but also by using live attenuated vaccines or nucleic acid vaccination. The invention furthermore provides immunogenic analogs of PSM, Her2 and FGF8b, as well as nucleic acid mols. encoding these analogs. Also vectors and transformed cells are disclosed. The invention also provides for a method for identification of immunogenic analogs of weak or non-immunogenic antigens.

IT **264179-59-1**, Neu (receptor) (human)
RL: BSU (Biological study, unclassified); PRP (Properties); BIOL (Biological study)
(amino acid sequence; weak antigens inserted with foreign **T cell** epitope as vaccines)

IT **264622-09-5**, Human Her2 protein (369-383)
RL: PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(weak antigens inserted with foreign **T cell** epitope as vaccines)

L5 ANSWER 5 OF 24 HCAPLUS COPYRIGHT 2000 ACS
ACCESSION NUMBER: 2000:98610 HCAPLUS
DOCUMENT NUMBER: 132:165123
TITLE: Heterominibodies
INVENTOR(S): Kufer, Peter; Dreier, Torsten; Baeuerle, Patrick A.; Borschert, Katrin; Zettl, Florian
PATENT ASSIGNEE(S): Micromet Gesellschaft Fur Biomedizinische Forschung m.b.H., Germany
SOURCE: PCT Int. Appl., 166 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2000006605	A2	20000210	WO 1999-EP5416	19990728
WO 200006605	A3	20000629		
W: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, SD, SL, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
AU 9957289	A1	20000221	AU 1999-57289	19990728
PRIORITY APPLN. INFO.:			EP 1998-114082	19980728
			WO 1999-EP5416	19990728

AB The present invention relates to a multifunctional compd., produceable in a mammalian host cell as a secretable and fully functional heterodimer of two polypeptide chains, wherein one of said polypeptide chains comprises, as the only const. region domain of an Ig heavy chain the CH1-domain and

the other polypeptide chain comprises the const. CL-domain of an Ig light chain, wherein said polypeptide chains further comprise, fused to said const. region domains at least two (poly)peptides having different receptor or ligand functions, wherein further at least two of said different (poly)peptides lack an intrinsic affinity for one another and wherein said polypeptide chains are linked via said const. domains. Preferably, said domains, having receptor or ligand function, are in the format of a scFv-fragment and/or are immuno-modulating effector mols. Most preferably, said scFV-fragment comprises the VH and the VL regions of the murine anti-17-1A antibody M79, the VH and the VL regions of the anti-Lewis Y antibody, as shown in Fig. 6, or the VH and the VL regions of the anti-CD3 antibody TR66 and/or said immuno-modulating effector mol. comprises cytokines or chemokines. Furthermore, the present invention relates to polynucleotides encoding said polypeptide chains as well as vectors comprising said polynucleotides and host cells transformed therewith as well as the use of the above embodiments for the prodn. of said multifunctional compds. In addn., pharmaceutical and diagnostic compns. are provided, comprising any of the afore-described multifunctional compds., polynucleotides or vectors. Described is also the use of the afore-mentioned multifunctional compd. for preventing and/or treating malignant cell growth, related to malignancies of hemopoietic cells or to solid tumors. Thus, heterominibody comprising (1) scFv of murine anti-17-1A antibody M79 and human CD80 extracellular domain, (2) scFv of anti-Lewis Y and CD80 extracellular domain, (3) M79scFv and CD54, (4) M79scFv and CD58, (5) M79scFv and CD86, (6) M79scFv and anti-CD3 scFv and CD80, (7) anti-EpCAM (HD70scFv) linked to GM-CSF and anti-EpCAM (HD70scFv) linked to interleukin 2 were prepd. and tested.

IT **258494-99-4**
RL: PRP (Properties)
(amino acid sequence; heterominibodies for preventing and treating malignancies of hemopoietic cells and solid tumors)

L5 ANSWER 6 OF 24 HCAPLUS COPYRIGHT 2000 ACS
ACCESSION NUMBER: 2000:2207 HCAPLUS
DOCUMENT NUMBER: 132:106652
TITLE: Poor binding of a HER-2/neu epitope (GP2) to HLA-A2.1 is due to a lack of interactions with the center of the peptide
AUTHOR(S): Kuhns, Jennifer J.; Batalia, Michael A.; Yan, Shuqin; Collins, Edward J.
CORPORATE SOURCE: Department of Microbiology and Immunology, University of North Carolina, Chapel Hill, NC, 27599, USA
SOURCE: J. Biol. Chem. (1999), 274(51), 36422-36427
CODEN: JBCHA3; ISSN: 0021-9258
PUBLISHER: American Society for Biochemistry and Molecular Biology
DOCUMENT TYPE: Journal
LANGUAGE: English

AB Class I major histocompatibility complex (MHC) mols. bind short peptides derived from proteins synthesized within the cell. These complexes of peptide and class I MHC (pMHC) are transported from the endoplasmic reticulum to the cell surface. If a clonotypic **T cell** receptor expressed on a circulating **T cell** binds to the pMHC complex, the cell presenting the pMHC is killed. In this manner, some tumor cells expressing aberrant proteins are recognized and removed by the immune system. However, not all tumors are recognized efficiently.

One reason hypothesized for poor **T cell** recognition of tumor-assocd. peptides is poor binding of those peptides to class I MHC mols. Many peptides, derived from the proto-oncogene HER-2/neu have been shown to be recognized by cytotoxic **T cells** derived from HLA-A2+ patients with breast cancer and other adenocarcinomas. Seven of these peptides were found to bind with intermediate to poor affinity. In particular, GP2 (HER-2/neu residues 654-662) binds very poorly even though it is predicted to bind well based upon the presence of the correct HLA-A2.1 peptide-binding motif. Altering the anchor residues to those most favored by HLA-A2.1 did not significantly improve binding affinity. The crystallog. structure shows that unlike other class I-peptide structures, the center of the peptide does not assume one specific conformation and does not make stabilizing contacts with the peptide-binding cleft.

IT **160212-35-1P**
RL: BPR (Biological process); PRP (Properties); SPN (Synthetic preparation); BIOL (Biological study); PREP (Preparation); PROC (Process)
(poor binding of a HER-2/neu epitope (GP2) to HLA-A2.1 due to lack of interactions with the center of the peptide)

REFERENCE COUNT: 39
REFERENCE(S):
(1) Adams, P; Proc Natl Acad Sci 1997, V94, P5018 HCAPLUS
(3) Batalia, M; Biopoly 1997, V43, P281 HCAPLUS
(4) Bouvier, M; Science 1994, V265, P398 HCAPLUS
(7) Chan, S; Immunol Rev 1998, V165, P195 HCAPLUS
(8) Chen, Y; J Immunol 1994, V152, P2874 HCAPLUS
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 7 OF 24 HCAPLUS COPYRIGHT 2000 ACS
ACCESSION NUMBER: 1999:740217 HCAPLUS
DOCUMENT NUMBER: 132:221298
TITLE: HER-2/neu peptide specificity in the recognition of HLA-A2 by natural killer cells
AUTHOR(S): Anderson, Larry D., Jr.; Hudson, J. Michael; Savary, Cherylyn A.; Fisk, Bryan; Gershenson, David M.; Ioannides, Constantin G.
CORPORATE SOURCE: Department of Gynecologic Oncology, The University of Texas M.D. Anderson Cancer Center, Houston, TX, 77030, USA
SOURCE: Cancer Immunol. Immunother. (1999), 48(7), 401-410
CODEN: CIIMDN; ISSN: 0340-7004
PUBLISHER: Springer-Verlag
DOCUMENT TYPE: Journal
LANGUAGE: English

AB Although natural killer (NK) cells have been described as non-MHC-restricted, new evidence suggests that NK activity can be either up- or down-regulated after interaction with the peptide-MHC class-I complex expressed on target cells. However, the epitope(s) recognized by NK cells have remained ill-defined. The authors investigated NK cell recognition of synthetic peptides representing a portion of a self-protein encoded by the HER-2/neu (HER-2) proto-oncogene and presented by HLA-A2. HER-2 nonapeptides C85, E89, and E75 were found partially to protect T2 targets from lysis by freshly isolated and interleukin-2 (IL-2)-activated NK cells (either HLA-A2+ or A2-). This inhibition was not solely due to changes in the level of HLA-A2 expression or conformation of serol. HLA-A2 epitopes. Using single-amino-acid variants at position 1 (P1) of two

HER-2 peptides, the authors obsd. that protection of targets was dependent on the sequence and the side-chain. These results suggest similarities in the mechanism of target recognition by NK and **T cells**. This information may be important for understanding the mechanisms of tumor escape from immunosurveillance and could help explain the aggressiveness of HER-2-overexpressing tumor cells.

IT **160212-35-1**
RL: PRP (Properties)
(HER-2/neu peptide specificity in recognition of HLA-A2 by natural killer cells)

REFERENCE COUNT: 42
REFERENCE(S):
(1) Borrego, F; J Exp Med 1998, V187, P813 HCAPLUS
(2) Bouvier, M; Science 1994, V265, P398 HCAPLUS
(3) Brooks, A; J Immunol 1999, V162, P305 HCAPLUS
(4) Brutkiewicz, R; J Virol 1995, V69, P3967 HCAPLUS
(5) Catipovic, B; J Exp Med 1992, V176, P1611 HCAPLUS
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 8 OF 24 HCAPLUS COPYRIGHT 2000 ACS
ACCESSION NUMBER: 1999:677539 HCAPLUS
DOCUMENT NUMBER: 132:48743
TITLE: H-2 class I knockout, HLA-A2.1-transgenic mice. A versatile animal model for preclinical evaluation of antitumor immunotherapeutic strategies
AUTHOR(S): Firat, Huseyin; Garcia-Pons, Francisco; Tourdot, Sophie; Pascolo, Steve; Scardino, Antonio; Garcia, Zacarias; Michel, Marie-Louise; Jack, Ralph Wiliams; Jung, Gunther; Kosmatopoulos, Konstadinos; Mateo, Luis; Suhrbier, Andreas; Lemonnier, Francois A.; Langlade-Demoyen, Pierre
CORPORATE SOURCE: Unite Immunite Cellulaire Antivirale, Dep. SIDA-Retrovirus, Institut Pasteur, Paris, F-75724, Fr.
SOURCE: Eur. J. Immunol. (1999), 29(10), 3112-3121
CODEN: EJIMAF; ISSN: 0014-2980
PUBLISHER: Wiley-VCH Verlag GmbH
DOCUMENT TYPE: Journal
LANGUAGE: English

AB H-2 class I-neg., HLA-A2.1-transgenic HHD mice were used for a comparative evaluation of the immunogenicity of HLA-A2.1-restricted human tumor-assocd. cytotoxic **T lymphocyte** (CTL) epitopes. A hierarchy was established among these peptides injected into mice in incomplete Freund's adjuvant which correlates globally with their capacity to bind and stabilize HLA-A2.1 mols. Co-injection of a helper peptide enhanced most CTL responses. In contrast, classical HLA class I-transgenic mice which still express their own class I mols. did not, in most cases, develop HLA-A2.1-restricted CTL responses under the same exptl. conditions. Different monoepitope immunization strategies of acceptable clin. usage were compared in HHD mice. Recombinant Ty-virus-like particles, or DNA encoding epitopes fused to the hepatitis B virus middle envelope protein gave the best results. Using this latter approach and a melanoma-based polyepitope construct, CTL responses against 5 distinct epitopes could be elicited simultaneously in a single animal. Thus, HHD mice provide a versatile animal model for preclin. evaluation of peptide-based cancer immunotherapy.

IT **160212-35-1**
RL: BPR (Biological process); PRP (Properties); THU (Therapeutic use);

BIOL (Biological study); PROC (Process); USES (Uses)
(preclin. evaluation of peptide-based cancer immunotherapy using HLA-A2.1-restricted tumor-assocd. CTL epitopes)

REFERENCE COUNT: 32
REFERENCE(S): (1) Arnold, B; Annu Rev Immunol 1991, V9, P297 HCAPLUS
(3) Burns, N; Mol Biotechnol 1994, V1, P137 HCAPLUS
(4) Deres, K; Nature 1989, V342, P561 HCAPLUS
(5) Falk, K; Nature 1991, V351, P290 HCAPLUS
(6) Gao, G; Nature 1997, V387, P630 HCAPLUS
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 9 OF 24 HCAPLUS COPYRIGHT 2000 ACS
ACCESSION NUMBER: 1998:728119 HCAPLUS
DOCUMENT NUMBER: 130:94160
TITLE: Immunization with a peptide epitope (p369-377) from HER-2/neu leads to peptide-specific cytotoxic **T lymphocytes** that fail to recognize HER-2/neu+ tumors
AUTHOR(S): Zaks, Tal Z.; Rosenberg, Steven A.
CORPORATE SOURCE: Surgery Branch, National Cancer Institute, NIH, Bethesda, MD, 20892-1502, USA
SOURCE: Cancer Res. (1998), 58(21), 4902-4908
CODEN: CNREA8; ISSN: 0008-5472
PUBLISHER: AACR Subscription Office
DOCUMENT TYPE: Journal
LANGUAGE: English

AB The oncogene HER-2/neu is genetically amplified and overexpressed in a large no. of human adenocarcinomas and has been implicated in the tumorigenic phenotype. Although it is a non-mutated self-protein, it is barely detectable in adult tissues, and immune responses toward it have been described in a no. of patients. It is, thus, an attractive candidate antigen for the immunotherapy of cancer patients. HLA-A2+ patients with metastatic breast, ovarian, or colorectal adenocarcinomas that over-expressed HER-2/neu were immunized with the HLA-A2-binding epitope p369-377 (p369). Patients were treated by repeated immunization with 1 mg of p369 in Freund's incomplete adjuvant every 3 wk. Peripheral blood mononuclear cells were collected prior to immunization and following two and four immunizations and were stimulated in vitro with peptide and assayed for peptide and tumor recognition. In three of four patients, peptide-specific CTLs were detected in post- but not pre-immunization blood. These CTLs recognized peptide-pulsed target cells at peptide concns. of .gtoreq.1 ng/mL yet failed to react with a panel of HLA-A2+ HER-2/neu+ tumor lines. In addn., infecting HLA-A2+ cells with recombinant vaccinia virus encoding HER-2/neu or up-regulating HLA-A2 with IFN-.gamma. in HER-2/neu+ cells also failed to confer reactivity by p369-reactive **T-cells**. A **T-cell** response to the HLA-A2 binding epitope p369 can be easily generated by immunizing patients with peptide in Freund's incomplete adjuvant. However, the CTLs failed to react with HER-2/neu+ tumor cells. Further studies are needed to det. whether and how HER-2 might serve as an antigen for tumor immunotherapy.

IT **160212-35-1**
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(peptide epitope from HER-2/neu induces human peptide-specific cytotoxic **T-cells** that fail to recognize HER-2/neu-pos. tumors)

REFERENCE COUNT: 39
REFERENCE(S):
(1) Abrams, S; Eur J Immunol 1996, V26, P435 HCAPLUS
(2) Bargmann, C; Nature (Lond) 1986, V319, P226 HCAPLUS
(3) Benz, C; Breast Cancer Res Treat 1993, V24, P85 HCAPLUS
(4) Brossart, P; Cancer Res 1998, V58, P732 HCAPLUS
(6) Coussens, L; Science (Washington DC) 1985, V230, P1132 HCAPLUS
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 10 OF 24 HCAPLUS COPYRIGHT 2000 ACS
ACCESSION NUMBER: 1998:642619 HCAPLUS
DOCUMENT NUMBER: 130:64884
TITLE: Identification of HER2/neu-derived peptide epitopes recognized by gastric cancer-specific cytotoxic **T lymphocytes**
AUTHOR(S): Kono, Koji; Rongcun, Yang; Charo, Jehad; Ichihara, Fumiko; Celis, Esteban; Sette, Alessandro; Appella, Ettore; Sekikawa, Takayoshi; Matsumoto, Yoshiro; Kiessling, Rolf
CORPORATE SOURCE: First Department of Surgery, Yamanashi Medical University, Yanmanashi, Japan
SOURCE: Int. J. Cancer (1998), 78(2), 202-208
CODEN: IJCNAW; ISSN: 0020-7136
PUBLISHER: Wiley-Liss, Inc.
DOCUMENT TYPE: Journal
LANGUAGE: English
AB We have derived HLA-A2.1-restricted, gastric cancer-specific cytotoxic **T lymphocyte** (CTL) lines by repetitive in vitro stimulation of tumor-assocd. lymphocytes (TAL) with autologous tumor cells. The HER2/neu specificity of these gastric cancer-specific CTLs was demonstrated using HER2/neu-transfected cell lines and HER2/neu-expressing tumors, and with a set of HER2/neu-derived peptide epitopes. Gastric cancer-specific CTLs specifically lysed autologous and allogeneic HLA-A2.1+, HER2/neu+ gastric cancer cells, HER2/neu-transfected CIR/A2 cell lines (HLA-A2.1+, HER2+) and HLA-A2.1-transfected SW626 tumor cell lines (HLA-A2.1+, HER2+). This recognition could be inhibited by anti-HLA-A2 antibody or by cold target HER2/neu-transfected CIR/A2 cells. Our results demonstrate that the HER2/neu-encoded HLA-A2.1-assocd. epitopes recognized by CTLs are presented as naturally processed peptides on gastric cancer lines. Furthermore, 3 of 19 tested HER2/neu-derived peptide epitopes [HER2(9106), HER2(9369), HER2(9689)], which all bound HLA-A2.1 with high (IC50 < 50 nM) affinity, were able to sensitize HLA-A2+ CIR/A2 cells to be recognized by the gastric cancer-specific CTLs, demonstrating the immunodominance of these epitopes. In conclusion, our findings implicate HER2/neu-derived epitopes as potential candidates for novel immunotherapy and vaccine strategies against gastric cancer.
IT **160212-35-1**
RL: BAC (Biological activity or effector, except adverse); BIOL (Biological study)
(identification of HER2/neu-derived peptide epitopes recognized by HLA-A2.1-restricted gastric cancer-specific cytotoxic **T lymphocytes**)
REFERENCE COUNT: 21
REFERENCE(S):
(1) Coussens, L; Science 1985, V230, P1132 HCAPLUS

(2) Cox, A; Science 1994, V264, P716 HCAPLUS
(4) Fisk, B; J exp Med 1995, V181, P2109 HCAPLUS
(5) Hoshino, T; Int J Cancer 1997, V70, P631 HCAPLUS
(6) Ikeda, H; Cancer Res 1993, V53, P3078 HCAPLUS
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 11 OF 24 HCAPLUS COPYRIGHT 2000 ACS
ACCESSION NUMBER: 1998:543146 HCAPLUS
DOCUMENT NUMBER: 129:160626
TITLE: Peptides and peptide-loaded antigen presenting cells for the activation of CTL
INVENTOR(S): Tsai, Van; Southwood, Scott; Sidney, John; Sette, Alessandro; Celis, Esteban
PATENT ASSIGNEE(S): Epimmune, Inc., USA
SOURCE: PCT Int. Appl., 104 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9833888	A1	19980806	WO 1998-US1959	19980130
W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, GM, GW, HU, ID, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG				
AU 9861409	A1	19980825	AU 1998-61409	19980130
EP 1012238	A1	20000628	EP 1998-906086	19980130
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI				

PRIORITY APPLN. INFO.: US 1997-36696 19970131
WO 1998-US1959 19980130

AB The authors disclose methods for generating antigen-specific cytotoxic **T lymphocytes** (CTLs) in vitro. Antigen presenting cells (APCs), preferably dendritic cells, are pretreated with growth factors (e.g., GM-CSF and IL-4), loaded with antigenic peptide, and cultured with CTL precursors. Interleukin-7 is generally added at day 1 of the incubation; IL-10 generally added one day later and during restimulation. The activated cytotoxic **T-cells** so obtained may be used for adoptive therapy of cancer and infection. The invention also comprises methods for using peptide pulsed dendritic cells to identify novel MHC class I-restricted tumor antigens and subdominant epitopes.

IT **160212-35-1**
RL: BAC (Biological activity or effector, except adverse); PRP (Properties); BIOL (Biological study)
(peptide epitope identification and peptide-loaded antigen presenting **cells** for activation of cytotoxic **T-cells**)

L5 ANSWER 12 OF 24 HCAPLUS COPYRIGHT 2000 ACS
ACCESSION NUMBER: 1998:506357 HCAPLUS

DOCUMENT NUMBER: 129:229561
TITLE: Growth and antigen recognition of tumor-infiltrating lymphocytes from human breast cancer
AUTHOR(S): Hudson, J. Michael; Castilleja, Agapito; Murray, James L.; Honda, Toshie; Kudelka, Andrezj; Singletary, Eva; Wharton, J. Taylor; Ioannides, Constantin G.
CORPORATE SOURCE: Dep. Gynecologic Oncology, Anderson Cancer Center, Houston, TX, 77030, USA
SOURCE: J. Interferon Cytokine Res. (1998), 18(7), 529-536
CODEN: JICRFJ; ISSN: 1079-9907
PUBLISHER: Mary Ann Liebert, Inc.
DOCUMENT TYPE: Journal
LANGUAGE: English

AB In the present study, the authors isolated tumor-infiltrating lymphocytes (TIL) from 21 primary solid tumors and tumor-assocd. lymphocytes (TAL) from 9 malignant effusions, resp., of breast cancer patients. Significant proliferation and expansion of **T cells** was obsd. in 23 of 30 distinct samples. The TIL cultures were initiated using OKT3 mAb in the presence of moderate concns. (25-50 U/mL) of IL-2, followed by 100 U/mL of tumor necrosis factor (TNF)-.alpha.. TAL were not stimulated with OKT3 mAb, but all were successfully expanded in culture in the presence of IL-2 alone or together with TNF-.alpha.. Seven of nine distinct TAL grew in culture as predominantly CD4+ lines. In contrast, only 14 of 21 (66%) of primary breast TIL expanded in culture and were predominantly of CD8+ phenotype. Autologous tumor lysis was obsd. in seven of eight cases tested. Only one of the four TIL tested and one of the four TAL tested preferentially lysed autologous tumor. HER-2 peptide E75 (369-377) was recognized by two TIL lines of the five primary TIL tested and three of the for TAL tested. This suggests that E75 may be recognized by primary breast tumors. This may be of interest in developing vaccine strategies for therapeutic management of breast cancer.

IT **160212-35-1**
RL: BAC (Biological activity or effector, except adverse); BIOL (Biological study)
(expansion and antigen recognition of tumor-infiltrating lymphocytes from human breast cancer)

L5 ANSWER 13 OF 24 HCAPLUS COPYRIGHT 2000 ACS
ACCESSION NUMBER: 1998:178119 HCAPLUS
DOCUMENT NUMBER: 128:213387
TITLE: Immune reactivity to HER-2/neu protein for diagnosis and treatment of malignancies in which the HER-2/neu oncogene is associated
INVENTOR(S): Cheever, Martin A.; Disis, Mary L.
PATENT ASSIGNEE(S): University of Washington, USA
SOURCE: U.S., 54 pp. Cont. of U.S. Ser. No. 414,417.
CODEN: USXXAM
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 4
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 5726023	A	19980310	US 1995-467083	19950606
US 5801005	A	19980901	US 1995-414417	19950331

PRIORITY APPLN. INFO.: US 1993-33644 19930317
US 1993-106112 19930812
US 1995-414417 19950331

AB Methods for the detection, monitoring and treatment of malignancies in which the HER-2/neu oncogene is assocd. are disclosed. CD4+ **T cells** and antibodies responsive to p185HER-2/neu protein and peptides can be detected in higher frequency in patients with breast cancer than normal individuals. Detection of specific **T cell** activation (e.g., by measuring the proliferation of **T cells**) in response to in vitro exposure to the HER-2/neu protein, or detection of immunocomplexes formed between the HER-2/neu protein and antibodies in body fluid, allows the diagnosis of the presence of a malignancy in which the HER-2/neu oncogene is assocd. Antibodies (e.g., c-neu Ab-3) used for detecting the HER-2/neu protein immunoblotting are derived by immunization of BALB/c mice with the peptide TAENPEYLGLDVPV, from the C-terminal domain of human c-neu protein, and fusion of mouse splenocytes with SP2/0 myeloma cells. The present invention also discloses methods and compns., including peptides, for treating such malignancies. Thus, CD4+ or CD8+ **T cells** are stimulated to proliferate in the presence of HER-2/neu protein or its peptide fragments, and then the proliferated **T cells** are administered to the animal in an ED. Peptide-based vaccines elicit immunity to HER-2/neu.

IT **100630-38-4**, Receptor (human MKN-7 cell gene c-erbB2 precursor protein moiety reduced)
RL: ARG (Analytical reagent use); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(immune reactivity to HER-2/neu protein for diagnosis and treatment of malignancies in which the HER-2/neu oncogene is assocd.)

IT **204380-34-7**
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(neu peptides specific for CD4-pos. **T cell** activation; immune reactivity to HER-2/neu protein for diagnosis and treatment of malignancies in which the HER-2/neu oncogene is assocd.)

IT **160212-35-1**
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(neu peptides specific for CD8-pos. **T cell** activation; immune reactivity to HER-2/neu protein for diagnosis and treatment of malignancies in which the HER-2/neu oncogene is assocd.)

L5 ANSWER 14 OF 24 HCAPLUS COPYRIGHT 2000 ACS
ACCESSION NUMBER: 1998:122486 HCAPLUS
DOCUMENT NUMBER: 128:242733
TITLE: Her-2/neu-derived peptides are tumor-associated antigens expressed by human renal cell and colon carcinoma lines and are recognized by in vitro induced specific cytotoxic **T lymphocytes**
AUTHOR(S): Brossart, Peter; Stuhler, Gernot; Flad, Thomas; Stevanovic, Stefan; Rammensee, Hans-Georg; Kanz, Lothar; Brugger, Wolfram
CORPORATE SOURCE: Department of Hematology, Oncology and Immunology, University of Tubingen, Tubingen, D-72076, Germany
SOURCE: Cancer Res. (1998), 58(4), 732-736
CODEN: CNREA8; ISSN: 0008-5472
PUBLISHER: American Association for Cancer Research
DOCUMENT TYPE: Journal

LANGUAGE: English

AB The Her-2/neu oncogene encodes a Mr 185,000 transmembrane protein with homol. to the epidermal growth factor receptor. It is overexpressed in 30-40% of breast and ovarian cancers, and this overexpression was shown to correlate with aggressiveness of malignancy and poor prognosis. Using tumor-assocd. lymphocytes isolated from patients with ovarian or breast cancer, several HLA-A2-restricted, Her-2/neu-derived peptides were identified. Further studies revealed that these tumor-assocd. CTLs can also lyse other tumors, including non-small cell lung and pancreatic cancer cells, suggesting that Her-2/neu epitopes are shared between several distinct types of epithelial tumors. To analyze whether Her-2/neu epitopes are tumor-assocd. antigens for renal cell carcinoma (RCC) and colon carcinoma, we induced Her-2/neu peptide-specific CTL responses by primary in vitro immunization and used these CTLs to det. the presentation of Her-2/neu epitopes on human tumor lines. Autologous dendritic cells (DCs) generated from peripheral blood monocytes were pulsed with Her-2/neu-derived peptides E75 and GP2 and used as antigen-presenting cells for CTL priming. High CTL activity toward peptide-pulsed targets was obtained after two weekly restimulations. CTLs induced with DCs generated in the presence of TNF-.alpha. elicited a higher cytotoxic activity when they were stimulated with the cognate peptide than did CTLs induced with DCs grown in granulocyte macrophage colony-stimulating factor and interleukin 4 alone. The cytotoxicity of induced CTLs was antigen specific and HLA-A2 restricted. Furthermore, these CTLs lysed, in a MHC- and antigen-restricted fashion, not only breast cancer cells but also colon carcinoma and RCC cell lines expressing Her-2/neu. The cytotoxic activity against tumor cells was blocked by cold HLA-A2-pos. targets pulsed with the cognate peptide in cold target inhibition assay and by anti-HLA-A2 monoclonal Ab. These results suggest that epitopes derived from Her-2/neu protein might be attractive candidates for broadly applicable vaccines and may prove useful for adoptive immunotherapies designed for colon carcinoma or RCC.

IT **160212-35-1**
RL: BAC (Biological activity or effector, except adverse); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(Her-2/neu-derived peptides are tumor-assocd. antigens expressed by human renal cell and colon carcinoma lines and are recognized by in vitro induced specific cytotoxic **T lymphocytes**)

L5 ANSWER 15 OF 24 HCAPLUS COPYRIGHT 2000 ACS

ACCESSION NUMBER: 1997:693545 HCAPLUS
DOCUMENT NUMBER: 128:2716
TITLE: Generation and phenotypic characterization of new human ovarian cancer cell lines with the identification of antigens potentially recognizable by HLA-restricted cytotoxic **T cells**
AUTHOR(S): Ramakrishna, Venkatesh; Negri, Donatella R. M.; Brusic, Vladimir; Fontanelli, Rosanna; Canevari, Silvana; Bolis, Giorgio; Castelli, Chiara; Parmiani, Giorgio
CORPORATE SOURCE: Division of Experimental Oncology D, Istituto Nazionale Tumori, Milan, Italy
SOURCE: Int. J. Cancer (1997), 73(1), 143-150
CODEN: IJCNAW; ISSN: 0020-7136
PUBLISHER: Wiley-Liss
DOCUMENT TYPE: Journal

LANGUAGE: English

AB This study describes a simple method for long-term establishment of human ovarian tumor lines and prediction of **T-cell** epitopes that could be potentially useful in the generation of tumor-specific cytotoxic **T lymphocytes** (CTLs). Nine ovarian tumor lines (INT.Ov) were generated from solid primary or metastatic tumors as well as from ascitic fluid. Notably all lines expressed HLA class I, intercellular adhesion mol.-I (ICAM-I), polymorphic epithelial mucin (PEM), and cytokeratin (CK), but not HLA class II, B7.1 (CD80), or BAGE. While of the 9 lines tested 4 (INT.Ov1, 2, 5, and 6) expressed the folate receptor (FR-.alpha.) and 6 (INT.Ov1, 2, 5, 6, 7, and 9) expressed the epidermal growth factor receptor (EGFR); MAGE-I and p185HER-2/neu were only found in 2 lines (INT.Ov1 and 2) and GAGE-I expression in 1 line (INT.Ov2). The identification of class I MHC ligands and **T-cell** epitopes within protein antigens was achieved by applying several theor. methods including: (1) similarity or homol. searches to MHCPEP; (2) BIMAS; and (3) artificial neural network-based predictions of proteins MAGE, GAGE, EGFR, p185HER-2/neu, and FR-.alpha. expressed in INT.Ov lines. Because of the high frequency of expression of some of these proteins in ovarian cancer and the ability to det. HLA binding peptides efficiently, it is expected that after appropriate screening, a large cohort of ovarian cancer patients may become candidates to receive peptide-based vaccines.

IT **160212-35-1**
RL: PRP (Properties)
(generation and phenotypic characterization of new human ovarian cancer cell lines with identification of antigens potentially recognizable by HLA-restricted cytotoxic **T cells**)

L5 ANSWER 16 OF 24 HCAPLUS COPYRIGHT 2000 ACS
ACCESSION NUMBER: 1997:617992 HCAPLUS
DOCUMENT NUMBER: 127:277193
TITLE: Recombinant constructs encoding **T cell** receptors specific for human HLA-restricted tumor antigens
INVENTOR(S): Sherman, Linda A.; Lustgarten, Joseph
PATENT ASSIGNEE(S): Scripps Research Institute, USA
SOURCE: PCT Int. Appl., 34 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9732603	A1	19970912	WO 1997-US3611	19970305
W: AU, CA, JP				
RW: AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
CA 2246333	AA	19970912	CA 1997-2246333	19970305
AU 9721997	A1	19970922	AU 1997-21997	19970305
EP 910409	A1	19990428	EP 1997-914916	19970305
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI				
JP 2000512127	T2	20000919	JP 1997-531972	19970305
PRIORITY APPLN. INFO.:			US 1996-12845	19960305

WO 1997-US3611 19970305

AB Methods are described to obtain nucleic acid mols. that encode **T cell** receptors and their derivs. that are human HLA-restricted and which are specific for tumor-assocd. antigens found in human tumors. These nucleic acids are useful in prepg. recombinant cells for diagnosis and therapy of human tumors. Demonstrated were selection of immunogenic peptides of Her-2/neu: H3 and H7, induction of cytotoxic **T lymphocytes** and lysis of human tumor by H3 and H7, and expression of recombinant TCR derivs. specific for these peptides.

IT **160212-35-1**
RL: ANT (Analyte); BSU (Biological study, unclassified); ANST (Analytical study); BIOL (Biological study)
(recombinant constructs encoding **T cell** receptors specific for human HLA-restricted tumor antigens)

L5 ANSWER 17 OF 24 HCAPLUS COPYRIGHT 2000 ACS
ACCESSION NUMBER: 1997:500233 HCAPLUS
DOCUMENT NUMBER: 127:117380
TITLE: Immunostimulants comprising dendritic cell-binding protein fusion products with antigens and expression vectors for disease treatment
INVENTOR(S): Laus, Reiner; Ruegg, Curtis Landon; Wu, Hongyu
PATENT ASSIGNEE(S): Activated Cell Therapy, Inc., USA; Laus, Reiner; Ruegg, Curtis Landon; Wu, Hongyu
SOURCE: PCT Int. Appl., 36 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9724438	A1	19970710	WO 1996-US20241	19961223
W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CZ, DE, DK, EE, ES, FI, GB, GE, HU, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, TJ, TM, TR, TT, UA, UG, US, UZ, VN, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: KE, LS, MW, SD, SZ, UG, AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG				
US 6080409	A	20000627	US 1995-579823	19951228
CA 2241373	AA	19970710	CA 1996-2241373	19961223
AU 9713380	A1	19970728	AU 1997-13380	19961223
AU 716783	B2	20000309		
EP 870022	A1	19981014	EP 1996-944879	19961223
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI				
JP 2000502567	T2	20000307	JP 1997-524418	19961223
US 5976546	A	19991102	US 1998-146283	19980903
PRIORITY APPLN. INFO.:			US 1995-579823	19951228
			WO 1996-US20241	19961223

AB Disclosed are therapeutic compns. and methods for inducing cytotoxic **T cell** responses in vitro and in vivo. The therapeutic compns. consist of antigen presenting cells activated by contact with a

fusion protein constructed by joining together a dendritic cell-binding protein and a polypeptide antigen. Also disclosed are expression vectors and systems for producing the polypeptide complexes. Examples include tumor prostatic acid phosphatase fusion products with GM-CSF, GM-CSF fusion products with oncogene antigen Her2, and p53 fusion products with GM-CSF. Fusion proteins were recombinantly expressed in either mammalian 293 cells or insect SF21 cells.

IT **192589-07-4P**
RL: BPN (Biosynthetic preparation); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(amino acid sequence; immunostimulants comprising dendritic cell-binding protein fusion products with antigens and expression vectors for disease treatment)

L5 ANSWER 18 OF 24 HCAPLUS COPYRIGHT 2000 ACS
ACCESSION NUMBER: 1997:455918 HCAPLUS
DOCUMENT NUMBER: 127:134444
TITLE: Conversion of in vitro cultured human monocytes into effective presenters of an HER2/neu-encoded CTL peptide epitope
AUTHOR(S): Wasserman, K.; Corsi, M. M.; Szekely, L.; Kono, K.; Maes, H. H.; Kiessling, R.
CORPORATE SOURCE: Division of Basic Sciences, Laboratory of Experimental Immunology, NCI-FCRDC, Frederick, MD, 21702-1201, USA
SOURCE: Scand. J. Immunol. (1997), 45(6), 678-682
CODEN: SJIMAX; ISSN: 0300-9475
PUBLISHER: Blackwell
DOCUMENT TYPE: Journal
LANGUAGE: English

AB Tumor-derived peptides have been surveyed, in a variety of systems, for their ability to elicit cytokine release from class I restricted **T cells**. Analogous studies on ovarian carcinoma have employed the antigen-processing defective T2 cell line. Purified dendritic cells (DC) have been reported to act as highly effective APC. A facile method was developed whereby DC-like cells were generated from monocyte precursors. Herein, evidence is presented suggesting DC-like cells are superior to T2 with respect to their ability to present a defined CTL epitope assocd. with ovarian carcinoma.

IT **160212-35-1**
RL: BPR (Biological process); PRP (Properties); BIOL (Biological study); PROC (Process)
(conversion of cultured human monocytes into effective presenters of HER2/neu-encoded cytotoxic **T lymphocyte** peptide epitope assocd. with ovarian carcinoma)

L5 ANSWER 19 OF 24 HCAPLUS COPYRIGHT 2000 ACS
ACCESSION NUMBER: 1997:255985 HCAPLUS
DOCUMENT NUMBER: 126:316078
TITLE: Identification of Her-2/Neu CTL epitopes using double transgenic mice expressing HLA-A2.1 and human CD.8
AUTHOR(S): Lustgarten, Joseph; Theobald, Matthias; Labadie, Colleen; Laface, Drake; Peterson, Per; Disis, Mary L.; Cheever, Martin A.; Sherman, Linda A.
CORPORATE SOURCE: Department of Immunology, The Scripps Research Institute, La Jolla, CA, 92037, USA
SOURCE: Hum. Immunol. (1997), 52(2), 109-118

CODEN: HUIMDQ; ISSN: 0198-8859
PUBLISHER: Elsevier
DOCUMENT TYPE: Journal
LANGUAGE: English
AB The Her-2/neu protooncogene is assocd. with malignant transformation and aggressive disease. Because of its overexpression in tumor cells and because it has been shown to be immunogenic, this protein represents an excellent target for **T-cell** immunotherapy. By identifying potential HLA-A2.1-binding peptides from the Her-2/neu sequence, peptides were selected as candidate **T-cell** epitopes. The immunogenicity of each peptide was evaluated by priming double transgenic mice expressing both the human (hu) CD8 and HLA-A2.1 mols. with synthetic peptides corresponding to these sequences. Because of the lack of interaction between murine CD8 and HLA-A2.1, expression of huCD8 on murine cells facilitates recognition of HLA mols. on human tumor cell lines. This led to the identification of two peptides that elicit an A2-restricted CTL response, one of which has not been previously identified. Both peptide-specific CTL populations were able to specifically lyse A2.1 and Her-2/neu expressing human tumor cells originating from a variety of tissues, demonstrating the utility of this murine model in identifying peptides presented by human cells. However, several Her-2/neu peptides previously reported to be immunogenic for human CTL were found not to be immunogenic in transgenic mice. The basis for these discrepancies is discussed.
IT **160212-35-1**
RL: BAC (Biological activity or effector, except adverse); BPR (Biological process); BIOL (Biological study); PROC (Process)
(identification of Her-2/Neu cytotoxic **T lymphocyte** epitopes using double transgenic mice expressing HLA-A2.1 and human CD8)

L5 ANSWER 20 OF 24 HCAPLUS COPYRIGHT 2000 ACS
ACCESSION NUMBER: 1996:485791 HCAPLUS
DOCUMENT NUMBER: 125:132739
TITLE: In vivo activation of tumor-specific cytotoxic **T cells**
INVENTOR(S): Sherman, Linda A.
PATENT ASSIGNEE(S): Scripps Research Institute, USA
SOURCE: PCT Int. Appl., 157 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9618409	A1	19960620	WO 1995-US16415	19951214
W: AM, AT, AU, BB, BG, BR, BY, CA, CH, CN, CZ, DE, DK, EE, ES, FI, GB, GE, HU, IS, JP, KE, KG, KP, KR, KZ, LK, LR, LT, LU, LV, MD, MG, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, TJ, TM, TT				
RW: KE, LS, MW, SD, SZ, UG, AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG				
CA 2207736	AA	19960620	CA 1995-2207736	19951214

AU 9646007	A1	19960703	AU 1996-46007	19951214
AU 712441	B2	19991104		
EP 793501	A1	19970910	EP 1995-944127	19951214
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LI, LU, MC, NL, PT, SE				
FI 9702514	A	19970812	FI 1997-2514	19970613
NO 9702729	A	19970813	NO 1997-2729	19970613
PRIORITY APPLN. INFO.:			US 1994-355558	19941214
			WO 1995-US16415	19951214

AB The present invention relates to methods, compns., and peptides useful in activating CTLs in vivo with specificity for particular antigenic peptides. The invention also discloses the use of activated CTLs in vivo for the diagnosis and treatment of a variety of disease conditions, and compns. appropriate for these uses. Diagnostic systems, components, and methods are also described herein.

IT **160212-35-1P**
RL: BAC (Biological activity or effector, except adverse); PNU (Preparation, unclassified); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(peptides for in vivo activation of tumor-specific cytotoxic **T cells**)

L5 ANSWER 21 OF 24 HCAPLUS COPYRIGHT 2000 ACS
ACCESSION NUMBER: 1996:235704 HCAPLUS
DOCUMENT NUMBER: 124:314868
TITLE: Changes in an HER-2 peptide upregulating HLA-A2 expression affect both conformational epitopes and CTL recognition: Implications for optimization of antigen presentation and tumor-specific CTL induction
AUTHOR(S): Fisk, Bryan; Savary, Cherylyn; Hudson, J. Michael; O'Brian, Catherine A.; Murray, James L.; Wharton, J. Taylor; Ioannides, Constantin G.
CORPORATE SOURCE: Departments Gynecologic Oncology, University Texas, Houston, TX, 77030, USA
SOURCE: J. Immunother. Emphasis Tumor Immunol. (1995), 18(4), 197-209
CODEN: JIEIEZ; ISSN: 1067-5582
DOCUMENT TYPE: Journal
LANGUAGE: English

AB The HER-2/neu protooncogene (HER-2) is overexpressed in a significant no. of breast and ovarian tumors. Peptides of HER-2 sequence were recently found to reconstitute recognition of cytotoxic **T lymphocytes** (CTLs) from tumor-assocd. (TALs) and tumor-infiltrating (TILs) lymphocytes, indicating that they reconstitute natural epitopes recognized by CTLs on HLA-A2+ tumors. Because HER-2 is an important antigen (Ag) for tumor-specific CTL induction and the immunogenicity of peptides for CTL induction is dependent on their presentation as stable complexes with HLA-A2, the authors identified peptides of high and low stabilizing activity from the sequence of HER-2 and the folate-binding protein (FBP). Distinct sequence patterns in the region positions (P)3-P5 and P1 were found for peptides with high (HSA) and low (LSA) stabilizing ability. A low-HLA-A-A2-affinity HER-2 peptide, P1 of the CTL epitope, was permissive to substitutions that enhanced HLA-A2-stabilizing ability and conserved CTL recognition. In contrast, the region P3-P5 was not permissive to sequence changes. The selective permissivity of P1 and P9 in the tumor epitope sequence may have important implications for optimization of tumor Ag presentation, and

"neoantigenicity" of self-antigens, aiming toward induction of tumor-reactive CTLs of defined affinity and specificity for target Ags.

IT **160212-35-1**
RL: BAC (Biological activity or effector, except adverse); BIOL (Biological study)
(changes in HER-2 and folate-binding protein peptides upregulating HLA-A2 expression affect antigen presentation and tumor-specific cytotoxic **T lymphocyte** induction)

L5 ANSWER 22 OF 24 HCAPLUS COPYRIGHT 2000 ACS
ACCESSION NUMBER: 1995:590068 HCAPLUS
DOCUMENT NUMBER: 123:7736
TITLE: Identification of an immunodominant peptide of HER-2/neu protooncogene recognized by ovarian tumor-specific cytotoxic **T lymphocyte** lines
AUTHOR(S): Fisk, Bryan; Blevins, Tracy L.; Wharton, J. Taylor; Ioannides, Constantin G.
CORPORATE SOURCE: M.D. Anderson Cancer Center, Univ. Texas, Houston, TX, 77030, USA
SOURCE: J. Exp. Med. (1995), 181(6), 2109-17
CODEN: JEMEAV; ISSN: 0022-1007
DOCUMENT TYPE: Journal
LANGUAGE: English

AB Synthetic peptide analogs of sequences in the HER-2 protooncogene (HER-2) were selected based on the presence of HLA-A2.1 anchor motifs to identify the epitopes on HER-2 recognized by ovarian tumor-reactive CTL. 19 Synthetic peptides were evaluated for recognition by four HLA-A2+ ovarian-specific cytotoxic **T lymphocyte** (CTL) line obtained from leukocytes assocd. with ovarian tumors. The nonapeptide E75 (HER-2, 369-377:KIFGSLAFL) was efficient in sensitizing T2 cells for lysis by all four CTL lines. This peptide was specifically recognized by cloned CD8+ CTL isolated from one of the ovarian-specific CTL lines. E75-pulsed T2 cells inhibited lysis by the same CTL clone of both an HLA-A2+ HER-2high ovarian tumor and a HER-2high cloned ovarian tumor line transfected with HLA-A2, suggesting that this or a structurally similar epitope may be specifically recognized by these CTL on ovarian tumors. Several other HER-2 peptides were recognized preferentially by one or two CTL lines, suggesting that both common and private HER-2 epitopes may be immunogenic in patients with ovarian tumors. Since HER-2 is a self-antigen, these peptides may be useful for understanding mechanisms of tumor recognition by **T cells**, immunol. tolerance to tumor, and structural characterization of tumor antigens.

IT **160212-35-1**
RL: PRP (Properties)
(identification of an immunodominant peptide of HER-2/neu protooncogene recognized by ovarian tumor-specific cytotoxic **T lymphocyte** lines)

L5 ANSWER 23 OF 24 HCAPLUS COPYRIGHT 2000 ACS
ACCESSION NUMBER: 1995:294003 HCAPLUS
DOCUMENT NUMBER: 122:263516
TITLE: HLA-A2.1 binding peptides and their detection and uses
INVENTOR(S): Grey, Howard M.; Sette, Alessandro; Sidney, John; Kast, W. Martin
PATENT ASSIGNEE(S): Cytel Corp., USA

SOURCE: PCT Int. Appl., 138 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9420127	A1	19940915	WO 1994-US2353	19940304
W: AT, AU, BB, BG, BR, BY, CA, CH, CN, CZ, DE, DK, ES, FI, GB, HU, JP, KP, KR, KZ, LK, LU, LV, MG, MN, MW, NL, NO, NZ, PL, PT, RO, RU, SD, SE, SI, SK, UA, UZ, VN				
RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG				
CA 2157510	AA	19940915	CA 1994-2157510	19940304
AU 9463594	A1	19940926	AU 1994-63594	19940304
CN 1118572	A	19960313	CN 1994-191364	19940304
EP 703783	A1	19960403	EP 1994-910837	19940304
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LI, LU, MC, NL, PT, SE				
JP 08507525	T2	19960813	JP 1994-520190	19940304
BR 9406652	A	19960910	BR 1994-6652	19940304
AU 9865979	A1	19980702	AU 1998-65979	19980518

PRIORITY APPLN. INFO.:
US 1993-27146 19930305
US 1993-73205 19930604
US 1993-159184 19931129
WO 1994-US2353 19940304

AB An algorithm for selecting immunogenic oligopeptides capable of specifically binding glycoproteins encoded by HLA-A2.1 allele and inducing **T cell** activation in **T cells** restricted by the A2.1 allele. The peptides are useful to elicit an immune response against a target antigen. Identification of immunogenic oligopeptides from viral or tumor-related proteins was demonstrated.

IT **160212-35-1**
RL: BAC (Biological activity or effector, except adverse); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(HLA-A2.1-binding immunogenic peptide and algorithm for its identification)

L5 ANSWER 24 OF 24 HCAPLUS COPYRIGHT 2000 ACS
ACCESSION NUMBER: 1995:60411 HCAPLUS
DOCUMENT NUMBER: 122:206764
TITLE: An expression profile of active genes in human colonic mucosa
AUTHOR(S): Okubo, Kousaku; Yoshii, Junji; Yokouchi, Hideoki; Kameyama, Masao; Matsubara, Kenichi
CORPORATE SOURCE: Ins. Mol. Cell. Biol., Osaka Univ., Suita, 565, Japan
SOURCE: DNA Res. (1994), 1(1), 37-45
CODEN: DARSE8; ISSN: 1340-2838
DOCUMENT TYPE: Journal
LANGUAGE: English

AB An expression profile of genes active in the human colonic mucosa was obtained by collecting 959 partial sequences from a 3'-directed cDNA library. Seven genes were found to produce mRNA each of which comprised more than 1% of total mRNA. Four of these genes are novel, and are likely to be uniquely expressed in the colonic mucosa, and the other three have

been identified as genes for fatty acid binding protein, Ig lambda chain, and carcinoma-assocd. antigen GA733-2. In the remaining 952 clones, 310 were composed of 118 species occurred recurrently but less than 1%, and 533 clones appeared only once. Because the 3'-directed cDNA library faithfully represents the mRNA population in the source tissue, these nos. represent the relative activities of the gene expression. Altogether 156 gene species were identified in GenBank, and a significant portion of these genes encode proteins found in Golgi app. and lysosomes, chromosome-encoded mitochondrial proteins, cell surface proteins, and components in the protein synthesis machinery. The types and proportions of genes identified is consistent with the known major activities of the colonic mucosa such as mucous protein prodn., energy-dependent water absorption, and rapid cell proliferation and turnover.

IT **100630-38-4**, Receptor (human MKN-7 cell gene c-erbB2 precursor protein moiety reduced)
RL: BSU (Biological study, unclassified); PRP (Properties); BIOL (Biological study)
(amino acid sequence of; expression profile of active genes in human colonic mucosa)

=> select hit rn l5 1-24

E1 THROUGH E7 ASSIGNED

=> fil reg

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DICTIONARY FILE UPDATES: 14 NOV 2000 HIGHEST RN 302896-64-6

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=> s e1-e7 and l1

1 160212-35-1/BI
(160212-35-1/RN)
1 100630-38-4/BI
(100630-38-4/RN)
1 192589-07-4/BI
(192589-07-4/RN)
1 204380-34-7/BI
(204380-34-7/RN)
1 258494-99-4/BI
(258494-99-4/RN)
1 264179-59-1/BI

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                (264179-59-1/RN)
             1 264622-09-5/BI
                (264622-09-5/RN)
L6           7 (160212-35-1/BI OR 100630-38-4/BI OR 192589-07-4/BI OR 204380-34
               -7/BI OR 258494-99-4/BI OR 264179-59-1/BI OR 264622-09-5/BI)
               AND L1

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L6   ANSWER 1 OF 7  REGISTRY  COPYRIGHT 2000 ACS
RN   264622-09-5  REGISTRY
CN   Glycine, L-lysyl-L-isoleucyl-L-phenylalanylglycyl-L-seryl-L-leucyl-L-
     alanyl-L-phenylalanyl-L-leucyl-L-prolyl-L-.alpha.-glutamyl-L-seryl-L-
     phenylalanyl-L-.alpha.-aspartyl- (9CI)  (CA INDEX NAME)
OTHER NAMES:
CN   18: PN: WO0020027 SEQID: 4 claimed protein
CN   Human Her2 protein (369-383)
LC   STN Files:   CA, CAPLUS
SQL  15
RN   264622-09-5  REGISTRY

SEQ      1 KIFGSLAFLP ESFDG
           =========
HITS AT:   1-9

REFERENCE   1:  132:292701

L6   ANSWER 2 OF 7  REGISTRY  COPYRIGHT 2000 ACS
RN   264179-59-1  REGISTRY
CN   Neu (receptor) (human) (9CI)  (CA INDEX NAME)
OTHER NAMES:
CN   122: PN: WO0020584 SEQID: 4 claimed protein
CN   Her2 protein (human)
LC   STN Files:   CA, CAPLUS
SQL  1255
RN   264179-59-1  REGISTRY

SEQ    351 REVRAVTSAN IQEFAGCKKI FGSLAFLPES FDGDPASNTA PLQPEQLQVF
                           == =======
HITS AT:   369-377

REFERENCE   1:  132:292701

L6   ANSWER 3 OF 7  REGISTRY  COPYRIGHT 2000 ACS
RN   258494-99-4  REGISTRY
CN   Immunoglobulin (mouse clone DC8scFv/erbB2EC single-chain precursor) fusion
     protein with peptide (synthetic human p53 (protein) tetramerization)
     fusion protein with neu (receptor) (human fragment) (9CI)  (CA INDEX NAME)
OTHER NAMES:
CN   35: PN: WO0006605 FIG: 49 claimed protein
LC   STN Files:   CA, CAPLUS
SQL  951
RN   258494-99-4  REGISTRY

SEQ    651 NIQEFAGCKK IFGSLAFLPE SFDGDPASNT APLQPEQLQV FETLEEITGY
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HITS AT: 660-668

REFERENCE 1: 132:165123

L6 ANSWER 4 OF 7 REGISTRY COPYRIGHT 2000 ACS
RN **204380-34-7** REGISTRY
CN L-Aspartic acid, L-lysyl-L-isoleucyl-L-phenylalanylglycyl-L-seryl-L-leucyl-L-alanyl-L-phenylalanyl-L-leucyl-L-prolyl-L-.alpha.-glutamyl-L-seryl-L-phenylalanyl-L-.alpha.-aspartylglycyl- (9CI) (CA INDEX NAME)
LC STN Files: CA, CAPLUS, TOXLIT, USPATFULL
SQL 16
RN **204380-34-7** REGISTRY

SEQ 1 KIFGSLAFLP ESFDGD
========
HITS AT: 1-9

REFERENCE 1: 128:213387

L6 ANSWER 5 OF 7 REGISTRY COPYRIGHT 2000 ACS
RN **192589-07-4** REGISTRY
CN Phosphatase, acid (rat) fusion protein with colony-stimulating factor 2 (rat) (9CI) (CA INDEX NAME)
LC STN Files: CA, CAPLUS, TOXLIT, USPATFULL
SQL 782
RN **192589-07-4** REGISTRY

SEQ 351 REVRAVTSAN IQEFAGCKKI FGSLAFLPES FDGDPASNTA PLQPEQLQVF
== =======
HITS AT: 369-377

REFERENCE 1: 127:117380

L6 ANSWER 6 OF 7 REGISTRY COPYRIGHT 2000 ACS
RN **160212-35-1** REGISTRY
CN L-Leucine, L-lysyl-L-isoleucyl-L-phenylalanylglycyl-L-seryl-L-leucyl-L-alanyl-L-phenylalanyl- (9CI) (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN L-Leucine, N-[N-[N-[N-[N-[N-[N-(N-L-lysyl-L-isoleucyl)-L-phenylalanyl]glycyl]-L-seryl]-L-leucyl]-L-alanyl]-L-phenylalanyl]-
OTHER NAMES:
CN 29: PN: WO0034494 TABLE: 1 claimed protein
CN 31: PN: WO0053161 SEQID: 70 unclaimed sequence
CN 40: PN: WO0049041 SEQID: 44 claimed sequence
LC STN Files: CA, CAPLUS, TOXLIT, USPATFULL
SQL 9
RN **160212-35-1** REGISTRY

SEQ 1 KIFGSLAFL
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HITS AT: 1-9

REFERENCE 1: 133:256752

REFERENCE 2: 133:191988

REFERENCE 3: 133:54574

REFERENCE 4: 132:221298

REFERENCE 5: 132:106652

REFERENCE 6: 132:48743

REFERENCE 7: 130:94160

REFERENCE 8: 130:64884

REFERENCE 9: 129:229561

REFERENCE 10: 129:160626

L6 ANSWER 7 OF 7 REGISTRY COPYRIGHT 2000 ACS
RN **100630-38-4** REGISTRY
CN Receptor (human MKN-7 cell gene c-erbB2 precursor protein moiety reduced) (9CI) (CA INDEX NAME)
OTHER NAMES:
CN (1-633)-(650-1255)-Neu (receptor) (human)
CN 1: PN: WO0044899 SEQID: 1 unclaimed protein
CN 2: PN: WO0020579 SEQID: 2 claimed protein
CN 2: PN: WO9957981 SEQID: 5 unclaimed protein
CN GenBank X03363-derived protein
CN Receptor (human gene c-erbB2 precursor)
CN Receptor (human gene c-erbB2)
LC STN Files: CA, CAPLUS, TOXLIT, USPATFULL
SQL 1255
RN **100630-38-4** REGISTRY

SEQ 351 REVRAVTSAN IQEFAGCKKI FGSLAFLPES FDGDPASNTA PLQPEQLQVF
== =======

HITS AT: 369-377

REFERENCE 1: 133:148720

REFERENCE 2: 132:274827

REFERENCE 3: 131:350249

REFERENCE 4: 128:213387

REFERENCE 5: 126:6440

REFERENCE 6: 122:206764

REFERENCE 7: 104:103428